



# Mineral Industry Surveys

---

**For information, contact:**

John F. Papp, Chromium Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4963, Fax: (703) 648-7757  
E-mail: [jpapp@usgs.gov](mailto:jpapp@usgs.gov)

Joseph M. Krisanda (Data)  
Telephone: (703) 648-7987  
Fax: (703) 648-7975

**Internet:** <http://minerals.usgs.gov/minerals>

## CHROMIUM IN JANUARY 2003

On the basis of gross weight, consumption of chromium ferroalloys and metal in January 2003 decreased slightly compared with consumption in December 2002, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. government stockpile inventory of

chromium materials in January 2003, U.S. consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of January 2003, and U.S. foreign trade data for selected chromium-containing materials in December 2002.

TABLE 1  
U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight)

	2002				2003 January
	November	December	Fourth quarter	January- December 2/	
Production:					
Stainless steel production 3/	181,000	167,000	536,000 4/	2,180,000 4/	173,000
Components of U.S. supply:					
Stainless steel scrap receipts	57,300	51,200	179,000	815,000	NA
Stainless steel scrap consumption	88,200	81,300	266,000	1,190,000	NA
Imports for consumption:					
Chromite ore	2,820	564	8,890	112,000	NA 5/
Ferrochromium:					
More than 4% carbon	26,900	51,900	98,000	283,000	NA 5/
More than 3%, but not more than 4% carbon	--	--	--	--	NA 5/
More than 0.5%, but not more than 3% carbon	60	400	860	8,040	NA 5/
Not more than 0.5% carbon	6,000	2,480	11,400	25,600	NA 5/
Ferrochromium silicon	4,960	2,920	7,880	28,900	NA 5/
Total ferroalloy imports	37,900	57,700	118,000	346,000	NA 5/
Chromium metal 6/	272	391	952	6,670	NA 5/
Stainless steel	60,200	53,500	170,000	752,000	NA 5/
Stainless steel scrap	8,360	7,070	22,900	81,000	NA 5/
Distribution of U.S. supply:					
Industry, consumer, chromium ferroalloys and metal	33,300 r/	33,400 r/	101,000	384,000 r/	33,300
Exports:					
Chromite ore	456	415	3,360	24,300	NA 5/
Chromium ferroalloys:					
High-carbon ferrochromium	314	208	10,100	13,500	NA 5/
Low-carbon ferrochromium	173	88	579	2,070	NA 5/
Ferrochromium silicon	33	--	42	281	NA 5/
Total ferroalloy exports	520	296	10,700	15,900	NA 5/
Chromium metal	35	55	134	498	NA 5/
Stainless steel	22,000	20,500	63,300	273,000	NA 5/
Stainless steel scrap	19,600	27,700	71,900	342,000	NA 5/
Stocks at end of period:					
Industry, consumer, chromium ferroalloys and metal	13,100	13,900 r/	XX	XX	19,500
Government stockpile:					
Chromite ore	206,000	204,000	XX	XX	204,000
Chromium ferroalloys	768,000	763,000	XX	XX	758,000
Chromium metal	7,220	7,220	XX	XX	7,220

r/ Revised. NA Not available. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

4/ Includes revised data which is not broken out by specific month.

5/ January 2003 data not available.

6/ Includes waste and scrap and other.

TABLE 2  
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS 1/

(Metric tons, gross weight unless otherwise noted)

	2002		2003 January
	December	January- December 2/	
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	384 r/	5,330 r/	469
High-strength low-alloy steel	1,010 r/	13,000 r/	1,060
Stainless and heat-resisting steel	28,600	325,000 r/	28,200
Full alloy steel	1,340 r/	16,300 r/	1,430
Electrical steel	W	W	W
Tool steel	427	5,810	490
Cast irons	W	W	W
Superalloys	668	7,930	686
Other alloys 3/	116	1,460	130
Total	33,400 r/	384,000 r/	33,300
Total, chromium content	19,700 r/	222,000	19,800
Consumption by material:			
Low-carbon ferrochromium	1,740 r/	21,000	1,910
High-carbon ferrochromium	27,800 r/	304,000 r/	27,500
Ferrochromium silicon	3,420 r/	54,300 r/	3,430
Chromium metal	259	3,200	259
Chromite ore	W	W	W
Chromium-aluminum alloy	30	468	35
Other chromium materials	W	W	W
Total	33,400 r/	384,000 r/	33,300
Total, chromium content	19,700 r/	222,000	19,800
Consumer stocks:			
Low-carbon ferrochromium	2,360 r/	XX	1,980
High-carbon ferrochromium	10,300	XX	16,100
Ferrochromium silicon	905	XX	1,070
Chromium metal	191	XX	197
Chromite ore	W	XX	W
Chromium-aluminum alloy	W	XX	17
Other chromium materials	W	XX	W
Total	13,900 r/	XX	19,500
Total, chromium content	8,470 r/	XX	11,900

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

2/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Includes welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3  
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS 1/ 2/

(Metric tons)

Period	Chromite ore		Chromium ferroalloys			Chromium metal
	Chemical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	
2002:						
January	192,000	111,000	561,000	243,000	6,970	7,220
February	192,000	111,000	558,000	239,000	6,970	7,220
March	192,000	111,000	558,000	239,000	6,970	7,220
April	192,000	111,000	558,000	239,000	3,100	7,220
May	192,000	111,000	558,000	239,000	3,100	7,220
June	78,300	175,000 3/	374,000	163,000	--	7,210
July	78,300	175,000	372,000	163,000	--	7,210
August	78,300	113,000	547,000 3/	235,000 3/	--	7,220 3/
September	78,300	113,000	544,000	234,000	--	7,220
October	78,300	127,000 3/	536,000	233,000	--	7,220
November	78,300	127,000	535,000	232,000	--	7,220
December	78,300	126,000	531,000	232,000	--	7,220
2003:						
January	78,300	126,000	527,000	231,000	--	7,220

-- Zero.

1/ Data are rounded to no more than three significant digits.

2/ These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract; however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specification and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

3/ The increase resulted from the reclassification of physical inventory from committed to uncommitted. It does not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4  
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL 1/

Period	Chromite ore		Chromium ferroalloys 2/			Chromium metal 3/	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2001:							
December	168	\$56	232	144	\$186	62	\$490
January-December	61,000	6,680	16,400	8,800	12,500	1,040	10,700
2002:							
January	350	210	463	288	472	53	450
February	988	572	394	233	393	44	224
March	234	106	577	354	513	27	447
April	528	822	674	412	652	80	699
May	494	153	774	452	686	48	493
June	17,200	824	456	261	416	24	265
July	335	89	394	240	369	25	366
August	345	61	771	469	577	38	414
September	458	171	664	394	589	25	253
October	2,490	842	9,880	6,460	4,650	44	404
November	456	122	520	307	462	35	445
December	415	93	296	178	288	55	483
January-December	24,300	4,070	15,900	10,100	10,100	498	4,940

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

3/ Includes chromium metal waste and scrap.

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL 1/

(Metric tons)

	2001	2002			
	January- December	October	November	December	January- December 2/
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	1,600	--	--	17	1,080
Chromic oxide content	575	--	--	6	301
More than 40% but less than 46% chromic oxide:					
Gross weight	3,100	19	51	24	10,600
Chromic oxide content	1,430	8	23	11	4,470
46% or more chromic oxide:					
Gross weight	184,000	5,490	2,770	523	100,000
Chromic oxide content	88,600	2,600	1,290	258	46,700
Total, all grades:					
Gross weight	189,000	5,510	2,820	564	112,000
Chromic oxide content	90,600	2,610	1,310	275	51,500
Ferrochromium:					
Low-carbon: 3/					
Not more than 0.5%:					
Gross weight	17,200	2,890	6,000	2,480	25,600
Chromium content	11,800	1,980	3,770	1,720	17,000
More than 0.5% but not more than 3%:					
Gross weight	2,290	400	60	400	8,040
Chromium content	1,440	255	38	267	4,960
Total, low-carbon:					
Gross weight	19,500	3,290	6,060	2,880	33,600
Chromium content	13,200	2,240	3,810	1,990	22,000
Medium-carbon: 4/					
Gross weight	20	--	--	--	--
Chromium content	13	--	--	--	--
High-carbon: 5/					
Gross weight	236,000	19,200	26,900	51,900	283,000
Chromium content	137,000	10,700	15,100	29,800	169,000
Total, all grades:					
Gross weight	256,000	22,500	33,000	54,800	316,000
Chromium content	150,000	12,900	18,900	31,800	191,000
Chromium metal:					
Other than waste and scrap	8,150	289	262	389	6,570
Waste and scrap	43	--	10	2	93
Total, all grades	8,190	289	272	391	6,670

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Ferrochromium containing not more than 3% carbon.

4/ Ferrochromium containing more than 3% but not more than 4% carbon.

5/ Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN 2002, BY GRADE AND BY COUNTRY 1/

Grade and country	December			January-December 2/		
	Gross weight (metric tons)	Cr <sub>2</sub> O <sub>3</sub> (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Cr <sub>2</sub> O <sub>3</sub> (metric tons)	Value 3/ (thousands)
Not more than 40% chromic oxide:						
Canada	--	--	--	38	13	\$15
Philippines	--	--	--	981	266	180
South Africa	17	6	\$4	63	22	16
Total	17	6	4	1,080	301	211
More than 40% but less than 46% chromic oxide, South Africa	24	11	3	10,600	4,470	710
46% or more chromic oxide						
Germany	--	--	--	18	9	5
South Africa	523	258	73	100,000	46,700	5,800
Total	523	258	73	100,000	46,700	5,810
All grades:						
Canada	--	--	--	38	13	15
Germany	--	--	--	18	9	5
Philippines	--	--	--	981	266	180
South Africa	564	275	79	111,000	51,200	6,530
Total	564	275	79	112,000	51,500	6,730

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2002, BY GRADE AND BY COUNTRY 1/

Grade and country	December			January-December 2/		
	Gross weight (metric tons)	Chromium content (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value 3/ (thousands)
<b>High-carbon ferrochromium: 4/</b>						
China	--	--	--	82	54	\$94
Germany	--	--	--	6,120	4,260	2,850
India	34	22	\$18	89	57	46
Kazakhstan	13,000	9,050	4,960	109,000	75,500	39,900
Russia	1,150	795	1,030	2,710	1,870	2,450
South Africa	34,700	18,200	10,300	132,000	68,100	36,600
Turkey	--	--	--	6,000	3,570	1,840
Venezuela	--	--	--	20	14	12
Zimbabwe	3,010	1,770	999	25,800	15,500	8,540
Total	51,900	29,800	17,300	283,000	169,000	92,300
<b>Low-carbon ferrochromium: 5/</b>						
More than 0.5% but not more than 3% carbon:						
Kazakhstan	300	205	217	1,960	1,360	1,370
Russia	--	--	--	991	695	884
South Africa	100	62	74	5,090	2,900	2,450
Total	400	267	291	8,040	4,960	4,710
Not more than 0.5% carbon:						
China	18	12	21	98	65	138
France	--	--	--	4	3	5
Germany	758	533	1,300	4,180	2,920	7,710
Japan	60	41	133	1,040	726	2,160
Kazakhstan	--	--	--	2,600	1,820	1,950
Russia	1,630	1,120	1,460	12,300	8,420	11,600
South Africa	16	11	33	5,040	2,820	2,410
Turkey	--	--	--	261	189	289
Total	2,480	1,720	2,950	25,600	17,000	26,200
<b>All grades:</b>						
China	18	12	21	180	119	232
France	--	--	--	4	3	5
Germany	758	533	1,300	10,300	7,180	10,600
India	34	22	18	89	57	46
Japan	60	41	133	1,040	726	2,160
Kazakhstan	13,300	9,260	5,180	114,000	78,700	43,200
Russia	2,780	1,920	2,490	16,100	11,000	14,900
South Africa	34,800	18,300	10,400	143,000	73,800	41,400
Turkey	--	--	--	6,260	3,760	2,130
Venezuela	--	--	--	20	14	12
Zimbabwe	3,010	1,770	999	25,800	15,500	8,540
Total	54,800	31,800	20,500	316,000	191,000	123,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

4/ Ferrochromium containing more than 4% carbon.

5/ Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2002,  
BY GRADE AND BY COUNTRY 1/

Grade and country	December		January-December 2/	
	Gross weight (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Value 3/ (thousands)
<b>Waste and scrap:</b>				
Germany	1	\$79	20	\$509
Japan	(4/)	16	23	169
Korea, Republic of	1	5	4	19
Netherlands	--	--	18	65
Russia	--	--	28	542
Total	2	100	93	1,310
<b>Other than waste and scrap:</b>				
Austria	--	--	(4/)	43
China	60	229	1,500	5,820
Finland	(4/)	24	(4/)	24
France	109	831	1,600	12,900
Germany	(4/)	57	30	602
India	--	--	(4/)	4
Italy	--	--	1	41
Japan	5	37	15	173
Kazakhstan	--	--	365	1,460
Liechtenstein	--	--	(4/)	37
Netherlands	--	--	7	29
Russia	140	449	1,830	7,830
Singapore	--	--	(4/)	7
Spain	--	--	1	11
Switzerland	(4/)	7	(4/)	35
Taiwan	1	6	2	13
United Kingdom	73	493	1,200	7,740
Total	389	2,130	6,570	36,800
<b>All grades:</b>				
Austria	--	--	(4/)	43
China	60	229	1,500	5,820
Finland	(4/)	24	(4/)	24
France	109	831	1,600	12,900
Germany	1	136	49	1,110
India	--	--	(4/)	4
Italy	--	--	1	41
Japan	5	53	38	342
Kazakhstan	--	--	365	1,460
Korea, Republic of	1	5	4	19
Liechtenstein	--	--	(4/)	37
Netherlands	--	--	24	94
Russia	140	449	1,870	8,370
Singapore	--	--	(4/)	7
Spain	--	--	1	11
Switzerland	(4/)	7	(4/)	35
Taiwan	1	6	2	13
United Kingdom	73	493	1,200	7,740
Total	391	2,230	6,670	38,100

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

4/ Less than 1/2 unit.

Source: U.S. Census Bureau.



TABLE 9  
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2002 1/

Stainless steel product	December		January-December 2/	
	Gross weight (metric tons)	Value 3/ (thousands)	Gross weight (metric tons)	Value 3/ (thousands)
Exports:				
Ingot	634	\$4,800	21,800	\$58,900
Flat-rolled (width > 600 mm)	10,100	19,100	102,000	210,000
Flat-rolled (width < 600 mm)	6,670	14,800	97,300	201,000
Bars and rods in irregular coils	88	723	1,240	6,460
Other bars and rods	713	4,850	15,300	82,400
Wire	488	3,480	10,100	67,300
Tubes, pipes, hollow profiles	1,760	8,630	25,900	116,000
Total	20,500	56,400	274,000	742,000
Stainless steel scrap	27,700	24,200	342,000	252,000
Grand total	48,200	80,600	616,000	994,000
Imports:				
Ingot	12,500	16,000	265,000	306,000
Flat-rolled (width > 600 mm)	20,300	31,300	240,000	364,000
Flat-rolled (width < 600 mm)	2,630	9,060	32,700	100,000
Bars and rods in irregular coils	3,810	6,080	52,900	86,700
Other bars and rods	6,340	13,900	71,800	162,000
Wire	3,130	8,650	30,000	92,100
Tubes, pipes, hollow profiles	4,800	18,500	59,900	239,000
Total	53,500	103,000	752,000	1,350,000
Stainless steel scrap	7,070	4,630	81,000	49,400
Grand total	60,600	108,000	833,000	1,400,000

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ May include revised data.

3/ Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.